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(19) **United States**(12) **Patent Application Publication****Spreter Von Kreudenstein et al.**(10) **Pub. No.: US 2020/0087414 A1**(43) **Pub. Date: Mar. 19, 2020**(54) **STABLE HETERODIMERIC ANTIBODY DESIGN WITH MUTATIONS IN THE FC DOMAIN**(71) Applicant: **Zymeworks Inc.**, Vancouver (CA)(72) Inventors: **Thomas Spreter Von Kreudenstein**, Vancouver (CA); **Surjit Bhimarao Dixit**, Richmond (CA); **Eric Escobar-Cabrera**, Burnaby (CA); **Paula Irene Lario**, Vancouver (CA); **David Kai Yuen Poon**, Richmond (CA)(21) Appl. No.: **16/568,611**(22) Filed: **Sep. 12, 2019****Related U.S. Application Data**

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(57) **ABSTRACT**

The provided scaffolds have heavy chains that are asymmetric in the various domains (e.g. CH2 and CH3) to accomplish selectivity between the various Fc receptors involved in modulating effector function, beyond those achievable with a natural homodimeric (symmetric) Fc molecule, and increased stability and purity of the resulting variant Fc heterodimers. These novel molecules comprise complexes of heterogeneous components designed to alter the natural way antibodies behave and that find use in therapeutics.

**Specification includes a Sequence Listing.**